

SELF-GENERATION REPORTING / ESTIMATION ALTERNATIVES

The Ad Hoc Information Committee

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I. INTRODUCTION

This paper is written to facilitate the discussion of options for collecting data about the part of California energy industry known as self generators. Self generators produce electricity onsite and consume all or part of that electricity onsite as an end-user.

A. Background

In May 1997 the Commission initiated an Order Instituting Rulemaking to address how changes should be made to the Commission's data collection regulations. An Ad Hoc Information Committee was established to guide the rulemaking proceeding. In late June 1998, the Committee issued a report proposing a scope and schedule for the OIR proceeding. As a result of a workshop held July 9, 1998, the Committee issued a final version of this Scoping Report. On July 30, 1998, a Scoping Order was issued that responded to several issues raised in the workshop and announced a schedule of activities encompassing three major categories of data: 1) electric generation, 2) electric system and 3) consumer characteristics. On September 4, 1998, a Commission staff paper was distributed to facilitate discussion of the collection, processing and submission of end-use customer data by various energy market participants to the Commission pursuant to its regulatory requirements. This discussion will be held at a workshop planned for September 29, 1998.

B. Purpose for this Paper

This Self-Generation Reporting/Estimation Alternatives paper is to facilitate discussion for a workshop planned for October 13, 1998, to explore options for obtaining necessary data about electric generation and consumption by self generators in California. Electricity produced onsite and consumed onsite has been an important element of the electricity industry in California. This self generation accounts for approximately 5 percent of total electricity consumed in California. For specific industries, however, the share of self generation is higher. Because of its importance in forming a complete outlook of how electricity is consumed in California, we will continue to need data on self generation.

II. HISTORY OF SELF-GENERATION DATA

A. Electricity Consumption/Generation

Prior to 1990, no actual self-generation consumption data were collected by the Commission. Self-generation consumption was estimated by California's utilities and provided to Commission staff to use in demand forecasts beginning in 1985. Utility staff developed self-generation consumption estimates using each facility's on-line capacity.

With the growth of self generation (Table 1), staff realized the necessity for more accurate information to improve the Commission's electricity demand forecast. Though self-generation consumption is only a small part of California's total electricity consumption, this source of consumption is extremely important in specific industries (Table 2). Staff began to consider alternatives to the consumption estimates provided by electric utility staff. In 1990, the Commission developed regulations that directed self generators to report their electric generation and consumption directly to the Commission. The regulations specified that the reporting requirements did not apply to 1) self generators with installed capacity rated below 10 megawatts or 2) self generators that did not use fossil fuel to generate electricity and sold all electricity to an electric utility. Electric utilities were directed to report electric consumption estimates for self-generation facilities with less than 10 megawatts of capacity.¹

Table 1
Percent Self-generation
of California Total Electricity Consumption

Year	Residential	Commercial	Industrial
1980	0.0%	0.0%	2.1%
1984	0.0%	0.5%	4.7%
1988	0.0%	1.6%	12.6%
1992	0.0%	1.8%	15.0%
1996	0.0%	2.0%	19.4%

Table 2
1996 California Electric Consumption for Specific SIC Codes (million kWh)

SIC	Description	Self-Generation	Utility Sales	Self-Generation+ Utility Sales	Percent Self-Generation
261	Pulp Mill	168	55	223	75.3%
263	Paperboard Mill	390	129	519	75.1%
291	Petroleum Refining	5,102	2,420	7,522	67.8%
206	Sugar	164	141	306	53.7%
13	Oil/Gas Extraction	1,583	2,636	4,219	37.5%
28	Chemical	1,160	2,467	3,627	32.0%
24	Lumber				29.4%

¹ California Code of Regulations, Title 20, Section 1304(b)(11).

Since 1991, each self-generation facility with at least 10 megawatt capacity has provided monthly electric generation, onsite electricity consumption, net peak generated, electricity sold to private parties, and fuel consumed classified by Standard Industrial Classification (SIC) code. Generally this is facility specific data. However, facilities that have the same 4-digit SIC code and are in the same electric and gas utility service areas may aggregate their filings. Electric utilities have provided estimates for the aggregate of onsite electricity consumption by 2-, 3- or 4-digit SIC code for self-generation facilities with less than 10 megawatt capacity.

B. Natural Gas and Other Fuel Use

While electricity data from self generators is collected so that it can be added to utility electricity sales, natural gas data from self generators is collected so that it can be subtracted from deliveries. Utilities report natural gas deliveries to the Commission. For facilities that have a cogeneration unit, utility natural gas deliveries are used for electric generation and for process steam. Because much of the demand analysis at the Commission focuses on energy use for industrial production (process steam and not electric generation), it is necessary to subtract the amount of natural gas used to support the generation of electricity.

The Commission collects monthly data, by fuel type, on total fuel used and on the amount of fuel used for electrical generation from facilities with installed generating capacity of 10 megawatts or greater that burn fossil fuels. Facilities are classified by 4-digit SIC code and are reported by electric service area. Facilities that have the same 4-digit SIC code and are in the same electric and gas utility service areas may aggregate their filings.

For facilities with less than 10 megawatts of installed generating capacity, the local natural gas utility is required to provide annual estimates of the aggregate amount of gas used for self generation classified by 4-digit SIC code.

III. ALTERNATIVES FOR COLLECTION OF SELF GENERATION DATA

Because of its importance in accounting for electricity consumption, the Commission will continue to need self-generation data. This section presents alternatives for the Commission's collection of these data.

A. Alternative #1: Status quo

This alternative maintains the status quo as described above. Namely, fossil fuel-fired thermal units of 10 megawatts or greater report monthly electricity and fuel consumption directly to the Commission, with electric and gas utilities providing estimates for self-generation facilities that are below 10 megawatts.

Advantages to this alternative include: 1) accurate accounting for self generation from large non-utility generators and relatively small reporting burden as the facilities presumably have the data readily available in the course of doing business, and 2) seasonal energy consumption information used to model energy consumption.

There are several disadvantages with this alternative. First, this reporting requirement duplicates in part requirements of the federal Energy Information Administration (EIA) (Form 867). Second, the data are not reported at the desired county-level (current regulations are service area based). Third, it is unclear that utilities have a need for self-generation energy estimates as a result of restructuring. Finally, there is possibly inconsistent estimation methods across utilities.

B. Alternative #2: Reporting requirements for units with one or more megawatt capacity

Under this alternative, self-generation units with one or more megawatt capacity would file directly with the Commission on an annual basis. The filing would include facility name and address including zip code, contact person, technology type, fuel use, monthly generation consumed on site, and monthly sales to utility distribution companies (UDCs),² California Power Exchange, California Independent System Operator (ISO), scheduling coordinator, electric marketers (other than scheduling coordinator), and to private parties listed by SIC code. Utility distribution companies and public utilities would be responsible for reporting names, addresses, facility capacity and fuel type for each self generator with 10 or more megawatt capacity and connected to their grid. No data would be collected for self-generation facilities with less than one megawatt capacity.³

Advantages of this alternative include fairness in reporting by facilities engaged in similar functions. Data received in these filings would be consistent and comprehensive. This will make for more accurate generation modeling and short-term demand forecasting at the Commission. Further, the data could be organized into geographic areas of interest, e.g., ISO congestion zones. Utilities would be relieved of a current reporting burden.

Disadvantages of this alternative include some duplication in reporting with EIA Form 867 and an increase in reporting burden on smaller facilities by requiring them to file with the Commission.

C. Alternative #3: Reporting requirements for units with 10 or more megawatt capacity and surveying self-generation units with less than 10 megawatt capacity

² UDCs include investor-owned companies, publicly-owned utilities and rural electric cooperatives.

³ Though there is approximately 185 non-utility facilities with less than one megawatt capacity, their total capacity accounts for less than one percent of California's electric generation capacity.

This alternative would require self-generation facilities with 10 or more megawatt capacity to report the same information described in Alternative #2. Commission staff would survey facilities with less than 10 megawatt capacity.

The advantages to this alternative include fewer small self-generation facilities required to report directly to the Commission compared to Alternative #2, but the same as currently required. Also, energy consumption information would be available about facilities with less than one megawatt capacity. Utilities would be relieved of a current reporting requirement.

The main disadvantage to this alternative is the cost of surveying small self-generation facilities. Other disadvantages are that the amount of information gained from facilities with less than one megawatt capacity may not be significant. Also, information for facilities with one or more megawatt capacity is partially available from EIA Form 867.

D. Alternative #4: Reporting requirements with Commission acceptance of EIA Form 867

This alternative would require self generators with one or more megawatt capacity to report to the Commission as in Alternative #2. However, self generators could fulfill this requirement by submitting EIA Form 867 to the Commission. If EIA Form 867 remains confidential, the Commission will treat filings as confidential.

The advantage of this alternative is a reduction in reporting requirements for self generators. Since EIA requires that all facilities greater than 1 MW file EIA Form 867, providing an additional copy to the Commission would make this a very low cost alternative. Also, utilities would be relieved of a current reporting requirement.

Problems with this alternative include the lack of monthly data on EIA Form 867 (only annual data are required, so seasonal patterns are not captured and the Commission's modeling efforts therefore become less precise). Also, EIA's SIC designations are mostly at the two-digit level. This is not as detailed as the Commission's consumption data making matching utility electricity sales and self generation more difficult.

E. Alternative #5: Reporting requirements for units with 10 or more megawatt capacity and acceptance of EIA Form 867 for self-generation units with less than 10 megawatt capacity

This alternative would require self-generation facilities with 10 or more megawatt capacity to report the same information described in Alternative #2. Facilities with less than 10 megawatt capacity would be allowed to provide a copy of their EIA Form 867 to the Commission. No information would be collected for facilities with less than one megawatt capacity.

The advantages to this alternative include 1) accurate accounting for self generation from larger facilities, 2) availability of seasonal information for facilities with 10 or more megawatt capacity, 3) availability of geographic information for facilities with one or more megawatt capacity and 4) a reduction of reporting requirements for small self-generation facilities.

The main disadvantage to this alternative is the unavailability of seasonal information for small self-generation facilities. Non-utility generators with 1 to 9 megawatt capacity account for about 7 percent of total non-utility electric generation capacity.

F. Alternative #6: Using surveys to collect non-utility generation data

In this alternative, the Commission would survey non-utility generators of one or more megawatt capacity to obtain the self-generation information noted in Alternative #2. The surveys would be conducted at least annually.

Advantages to this alternative include more comprehensive data than collected under the status quo alternative as 1 to 10 megawatt facilities would now be providing information. Other advantages include a reduction in burden on utilities that no longer would be required to estimate small facility self generation, and depending on the sample size, a reduction in reporting burden compared to Alternative #2 as only a portion of the self generators would be providing information.

There are four major disadvantages to using surveys to collect self-generation data. First, difficulties in identifying non-utility generators from which to sample⁴ mean the sample may not be representative of the population and thus, the results may be inaccurate. Second, a voluntary survey is likely to achieve low response rates both for the survey as a whole and on individual questions, leading to biased results. Third, the reporting burden may not be minimized greatly due to the possibly large sample sizes needed to achieve results of the desired precision. Finally, the costs of collecting self-generation data via surveys are likely to be higher than with mandatory reporting when sample sizes are large and most facilities are asked to respond to the survey.

The appendix provides more details on using surveys to collect self generation data.

⁴ Only a subset of non-utility generators are self generators. For example, it is estimated that 2 out of 3 fossil-fueled non-utility generators self generate.

IV. COMPARISON OF ALTERNATIVES

Table 3 compares the alternatives for collection of self-generation data. All alternatives satisfy some portion of the Commission's information needs. Alternative #2 and #6 appear to be the most complete. Alternative #2, while reducing the reporting burden for UDCs, increases the reporting burden for self generators with less than 10 megawatt capacity, but by a small amount since they report to EIA already. Though Alternative #6 is the most comprehensive by providing information for even the smallest self generators, it appears to be the most costly for the Commission and has several implementation issues.

Alternative #4 is by far the least costly. It also is one of the alternatives that only partially satisfies the Commission's information needs by omitting monthly information used to make seasonal adjustments to the Commission's energy demand model and does not provide the SIC code detail that easily allows matching with UDC electricity sales information.

Alternative #1, Status Quo, also only partially satisfies the Commission information needs by omitting geographic location data. Another problem with Alternative #1 is that UDCs may no longer have a need to know the amount of self generation electricity consumption, therefore it may be a burden for UDCs to continue to estimate consumption for facilities with <10 megawatt capacity.

Alternatives #3 and #5 are combinations of some of the other alternatives. In these alternatives, facilities with 10 or more megawatt capacity report directly to the Commission, while smaller facilities either provide EIA Form 867 or participate in a survey. For larger self-generation facilities, there is no added burden when compared with the current regulations. The focus for deciding between these two alternatives is between using EIA Form 867 or surveying facilities with less than 10 megawatt capacity.

Table 3
Comparison of Self Generator Data Collection Options

Criteria/ Alternative	Satisfies CEC Information Needs	Implementation Issues	Burden versus Benefit	Total Cost Compared to Current Regulations
Alternate #1 Status Quo	<ul style="list-style-type: none"> –Accurate accounting for ≥ 10 MW facilities –Seasonal information for energy model –Does not provide county level information 	Currently implemented	<ul style="list-style-type: none"> –Duplicates, in part, requirements for EIA Form 867 –Possibly no longer need for UDC to use self generation estimates 	Not applicable
Alternate #2 ≥ 1 MW Facilities Report	<ul style="list-style-type: none"> –Accurate accounting for ≥ 1 MW facilities –Provides county level information –Provides seasonal information for energy model 	UDCs provide list of all generators to CEC. CEC initially contacts each generator to determine which self generates	<ul style="list-style-type: none"> –Fairness in reporting by facilities engaged in similar functions –Reduces UDC/ gas utility reporting –Increases $>1, <10$ facility reporting –Duplicates, in part, requirements for EIA Form 867 	<ul style="list-style-type: none"> –Should not add substantial cost to self generators since tracking consumption is part of facility business practice –Reduces costs for UDC/gas utilities
Alternate #3 ≥ 10 MW Facilities Report, <10 MW Survey	<ul style="list-style-type: none"> –Accurate accounting for ≥ 10 MW facilities –Provides county level information –Provides information on <1 MW facilities 	UDCs provide list of all generators to CEC. CEC initially contacts each generator to determine which self generates	<ul style="list-style-type: none"> –Duplicates, in part, requirements for EIA Form 867 –Reduces UDC/ gas utility reporting –Determining which <10 facilities self generate –Amount of information gained from <1 MW facilities may not be significant 	Possibly costly to survey small utilities
Alternate #4 Accept EIA Form 867	<ul style="list-style-type: none"> –Accurate accounting for ≥ 1 MW facilities –Provides county level information –Does not provide seasonal information for energy model –Less SIC code detail 	No known implementation issues	<ul style="list-style-type: none"> –Reduces self generator reporting requirements –Reduces UDC/ gas utility reporting requirements 	Cost reduction for self generators, UDCs and CEC
Alternate #5 ≥ 10 MW Facilities Report, >1 and <10 MW Accept EIA Form 867	<ul style="list-style-type: none"> –Accurate accounting for ≥ 10 MW facilities –Provides county level information –Provides seasonal information from ≥ 10 MW facilities, but not for <10 MW facilities –Does not provide information for <1 MW facilities 	Determining which <10 MW facilities self generate	<ul style="list-style-type: none"> –Reduces <10 MW facility reporting requirements –Reduces UDC/ gas utility reporting requirements 	Negligible cost for <10 MW facilities for providing copy of EIA 867
Alternate #6 Survey	<ul style="list-style-type: none"> –Provides county level information –Provides information from <1 MW facilities 	<ul style="list-style-type: none"> –Difficult to identify self generators –Possible low response rate –Reporting burden may not be minimized greatly due to need for large sample size 	<ul style="list-style-type: none"> –Reduces reporting requirements for self generators and UDCs –Large burden on CEC staff to conduct survey 	<ul style="list-style-type: none"> –High cost to CEC to conduct survey –Reduce costs to ≥ 10 MW facilities –Increase costs <10 MW facilities

V. CONCLUSION

This paper provides background and discussion about collecting the self-generation data needed to form a complete picture of energy usage in California. It was prepared for the October 13, 1998, workshop which will focus on consumer information needs and alternatives. Staff has presented six alternatives for collecting the necessary self-generation data. We welcome suggestions about how to address the problems of gathering the needed data as well as ideas about other methods for collecting these data.

APPENDIX

USING SURVEYS TO COLLECT SELF-GENERATION DATA

This appendix describes in detail some issues in using surveys to collect self-generation data. In the main body of this paper, Alternatives 3 and 6 proposed using surveys to collect self-generation data. These data are:

- a) name
- b) facility address including zip code
- c) contact person
- d) technology type
- e) fuel use
- f) generation consumed on site, and
- g) sales to utility distribution companies (UDCs), publicly-owned utilities, rural electric cooperatives, California Power Exchange (PX), California Independent System Operator (ISO), scheduling coordinator (other than PX), electric marketers (other than scheduling coordinator), and private parties listed by Standard Industrial Classification (SIC) code.

In principal, surveying has the potential of collecting these data from only a portion of the population while still providing accurate results. Thus reporting burden is reduced compared to mandatory reporting by all facilities. There are, however, three main disadvantages of self-generation surveys. First, there is a possibility for inaccurate results because the sample may not represent the population. Second, potential low response rates will lead to biased results. Finally, due to potentially large sample sizes, surveys might entail higher overall costs compared to mandatory reporting. Staff discusses these disadvantages below.

Survey steps

In another paper, staff described six steps for conducting a survey.⁵ These steps are specifying: 1) survey objectives, 2) overall design, 3) sample design, 4) questionnaire development, 5) survey implementation, and 6) data analysis and report preparation. Sample design, questionnaire development, and data analysis and report preparation (Steps 3, 4, and 6) present the greatest challenges for surveys of self-generators and lead to the disadvantages mentioned above. Therefore, staff focuses on these steps below.

⁵ See "Basic Steps in Conducting Surveys" prepared for the 10/13/98 OIR workshop.

Sample design

A sample that is well-designed allows the survey analyst to generalize survey results to the targeted population and to achieve accurate results at minimal costs. Sample design has three components: 1) sample frame development, 2) population stratification, and 3) sample size determination and sample selection.

Sample frame. By sample frame we mean a list of all units in the population for which we are seeking information. Because the sample providing information will be selected from this list, it is important that the list be comprehensive. Otherwise, the results from the survey will not represent the population but will be biased. For example, if our list only included fossil-fueled self-generators, then our coverage would not be complete because we would have excluded biomass, wind, and other alternatively-fueled self-generators. The result would thus be an underestimate of self-generation consumption.

Fortunately, it could be straightforward to construct a sample frame of self-generation facilities from existing information. Because of system safety concerns, the UDCs have interconnection agreements with all generators connected to the distribution and transmission system. Providing a list of these generators to Commission staff on an annual basis would give staff a population list from which to work. A portion of these are self-generators for which different data are desired than for merchant generators, and staff would have to develop methods for distinguishing between these two generation facilities.

If a UDC list of self generators were not available, however, then developing the sample frame would be a difficult and time-consuming task. This is mainly because self-generation is difficult to identify and locate. With respect to identification, self-generation is only one activity in a business that will usually be classified by other criteria. e.g., main economic activity. Furthermore, self- generators are diffused throughout many industries as indicated in Table 2 in the main text.

Other than UDC lists, staff knows of no other complete source of the self-generation population. Piecing together information from other sources, e.g., older survey data, would lead to incomplete and outdated population lists. Alternatively, staff could screen the population via a short survey to identify self-generation facilities. This option would be expensive because of the wide diffusion of few self-generators in the population, and it has its own sample frame development problems as well. Finally, staff could use a list-area survey design that employs both incomplete population lists and geographical areas as sampling units. However, the disadvantages of this method include the complexity of managing both the list and area frames and the expense, particularly with the business enumeration that would be necessary in the selected area samples that are part of this design.

Therefore, staff believes the most cost-effective means of developing a sample frame of self- generators is simply to obtain the interconnected facility information from the

UDCs. A regulation requiring the UDCs to provide such a list on an annual basis would meet staff needs. Such a regulation already exists.⁶ Therefore staff assumes that this minimal intrusion on UDCs can be presumed for the future.

Population stratification. In this step, the domains of study are identified and the population is grouped into the subgroups of interest. By stratifying the population at this early step in the survey process, it is possible to allocate a sufficient number of sample points to the domains of interest to permit estimates of the desired precision.

Staff expects that possible domains will be based on geographic location, e.g., ISO congestion zones or counties, and on fuel used, e.g., fossil fuel or biomass. Therefore, to the extent zip codes are available from the UDCs, staff recommends including this information in a regulatory reporting requirement.

Sample size and selection. In order to determine sample size, the survey sponsor must specify a level of precision for the desired estimate and how much risk s/he is willing to take that the estimate is 'too far' from the true value. Based on our current list of fossil-fueled non-utility generators, we estimate that sample sizes would approach population sizes in order to achieve an accuracy of $\pm 5\%$ with 95% confidence using simple random sampling. However, we can expect some gains in reducing sample size while maintaining precision if there is enough information to use other sampling methods (e.g., if our sample frame includes a measure of the size of the facility so that we could employ stratified random or probability-proportional-to-size sampling). Our initial conclusion, however, is that because of the variability in capacity and presumably production among facilities, the sample size could be quite large, at least for populations of larger facilities. Thus, reporting burden is not substantially reduced by using a survey compared to mandatory reporting requirements for these larger facilities.

Therefore, to the extent capacity or other measure of size is available from the UDCs because of their interconnection agreements with self-generation facilities, then staff recommends that size information be included in any UDC reporting requirement for interconnected facilities.

Questionnaire development

We expect extensive pilot testing of the questionnaire and survey method in order to achieve high response rates to a self-generator survey. First, it may be difficult to convince self-generators to respond to a voluntary survey. Response rates to voluntary utility mail commercial energy use surveys have typically only been 25-35% in the past. With such low rates, respondents tend to differ from the population at large such that survey results will almost invariably be biased. We suspect confidentiality concerns as well as perceived low benefit from survey response would be the main factors behind a low response rate for a self-generator survey.

⁶ California Code of Regulations, Title 20, Section 1304(b)(11).

Second, in order to correctly respond to generation questions, customers will have to retrieve data. This could be a major stumbling block to our gathering the data via surveys. Although facilities would also have to report data under a mandatory reporting requirement, given the certainty of having to report, they can set up systems to easily retrieve these data. When only occasionally contacted to participate in a survey, facility operators may have to review their records to prepare responses to survey questions.

Third, because of the possible need for large sample sizes, many of the same customers will be selected into the sample year after year. This would especially be true for larger customers and for a survey targeted to getting accurate county-level or ISO congestion zone data. Because of frequent requests to supply information, these customers will likely experience respondent burden and eventually refuse to respond to the survey.

In order to deal with these problems, staff expects extensive pilot tests to be conducted in the questionnaire development step, at least prior to the first survey implementation. These tests would investigate how to promote high response rates, how questions should be worded, which method (mail or telephone) delivers the most accurate and timely data, how frequently the survey can be conducted without inducing respondent burden, etc. This could be an expensive phase of the survey process.

For these reasons, staff is investigating other sources of information to deal with respondent burden and other problems. In particular, the federal Energy Information Administration (EIA) requires non-utility generators with capacities of one megawatt or greater to report annual generation and other data. These data are likely to be classified as non-confidential in the near future. By requiring these facilities to file copies of their EIA reports with the Commission, the Commission could both relieve these facilities from survey response burden as well as obtain desired data. Alternatives 4 and 5 in the main text discuss this possibility.

Furthermore, assuming high response rates could be achieved, then the question of the cost-effectiveness of conducting surveys as compared to requiring mandatory reporting arises. This is because the necessary sample sizes may approach the population size if self-generators of all sizes are targeted in a survey. Thus, in addition to self-generator costs of providing the information, a survey adds on costs for survey planning and implementation.

However, if staff has alternate means of gathering information on large self-generators, then surveying the remaining smaller facilities becomes more feasible. If there are many small self-generators, it is unrealistic to expect the Commission to be able to process mandatory reporting. In this case, surveying is an appropriate option, reducing reporting burden for small facilities and processing burdens for the Commission.

Data analysis and report preparation.

Because response rates are likely to be low, staff expects to spend considerable time evaluating the representativeness of responses and employing techniques to make some adjustments for survey questions that are left blank. It should be noted that these 'fixes' to the survey data cannot really substitute for complete data from all the facilities in the sample.

Other survey-based possibilities

At present, staff is aware of two other survey-based methods for collecting self-generation data: 1) model-based estimation, and 2) other surveys and/or records. With a model-based approach, efforts are shifted away from the design-based approach described above, which aimed at developing population estimates via the survey, to developing a model for self-generation activity and then collecting the data necessary to support this model. For example, suppose a regression model could be estimated that accurately determined self-generation consumption based on PX prices, self-generation technology prices, and some measure of expected business activity. Then staff would only have to collect data on these explanatory factors to estimate self-generation consumption. However, at this time, staff does not know if self-generation relationships are strong enough to permit a model-based approach. Further, since staff expects UDC rate design changes as a consequence of elimination of the rate freeze mandated by AB 1890 (1996), any historic relationships may not be reliable.

The second approach involves incorporating self-generation questions into other frequently conducted surveys or collecting the desired data from administrative records. At this time, staff is not aware of any surveys on which to piggyback such questions frequently enough to meet annual data needs. Similarly, staff does not know of any administrative records containing the desired data.

Survey summary

Staff has presented some thoughts regarding the use of a survey to collect self-generation data. The three major concerns are: 1) the difficulty in developing a sampling frame for self-generators alone starting from UDC lists of all interconnected generation facilities, 2) the expected nonresponse both to the survey and to questions about monthly generation, and 3) the considerable effort needed to adjust survey results for nonresponse. On the other hand, if there are many small self-generators, it would be unrealistic to expect the Commission to be able to process mandatory reporting. In this case, a sample survey may be the only means of gathering data on the small self-generators. Costs would be reduced compared to mandatory reporting, and reporting burdens for both the Commission and self-generation facilities would also be reduced.